

IN THE CLAIMS

The following is a complete list of the claims now pending; this listing replaces all earlier versions and listings of the claims.

5.7 1. (Currently Amended) Apparatus An apparatus for processing image data defining a plurality of input images of a changing scene recorded at different times to generate data for defining a sequence of images conveying an evolving representation of the scene from a fixed viewing position and direction between the times at which the first and last input images were recorded, the apparatus comprising:

an image registerer for registering unit, arranged to register the input images so that the registered input images represent the scene from the same viewing position and direction relative to the scene; and

a pixel value interpolator, arranged to for interpolating interpolate between the pixel values of the registered input images to generate pixel values for interpolated images from the same viewing position and direction relative to the scene for the image sequence.

2. (Currently Amended) Apparatus An apparatus according to claim 1, wherein the said image registerer registering unit comprises:

a transformation calculator, arranged to for calculating calculate transformations to transform the input images; and

a transformation applicator, ~~arranged to~~ [for] ~~using~~ use the transformations calculated by ~~the~~ said transformation calculator to register the input images.

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3. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 2, wherein ~~the~~ said transformation calculator comprises a ~~matcher~~ matching unit, arranged to match features in the input images and a calculator, ~~for to calculating~~ calculate the transformations on the basis of the matched features.

4. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 2, wherein ~~the~~ said transformation calculator comprises an input-signal processor ~~for~~ processing signals input by a user defining matching features in the input images to calculate the transformations.

5. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 1, wherein ~~the~~ said pixel value interpolator is arranged to generate the pixel values for the interpolated images using linear interpolation.

6. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 1, wherein ~~the~~ said pixel value interpolator is arranged to generate pixel values for interpolated images to be displayed in the image sequence in which each input image is to be displayed a plurality of consecutive times.

7. (Currently Amended) ~~Apparatus~~ An apparatus according to claim 1, further comprising an overlap detector, arranged to process input images registered by ~~the said image registerer~~ registering unit to determine an area of overlap thereof, and wherein, ~~the said~~ pixel value interpolator is arranged to interpolate between the pixel values for pixels in the area of overlap only.

02 8. (Currently Amended) ~~Image~~ An image processing apparatus for generating data for a time-lapse sequence of images of a changing scene from the same viewing position and direction relative to the scene, comprising:

a transformation calculator, for ~~calculating~~ to calculate transformations to ~~register~~ registered input images recorded ~~with~~ from at least one of different viewing positions and/or different viewing directions so that the registered input images represent the scene from the same viewing position and direction relative to the scene; and

an image data generator, arranged to ~~for using~~ use the input images and the calculated transformations to generate data for images of the scene from the same viewing position and direction to be displayed in the sequence.

9. (Currently Amended) A method of processing image data defining a plurality of input images of a changing scene recorded at different times to generate data for defining a sequence of images conveying an evolving representation of the scene from a fixed viewing position and direction between the times at which the first and last input images were recorded, ~~the said~~ method comprising the steps of:

registering the input images so that the registered input images represent the scene from the same viewing position and direction relative to the scene; and  
interpolating between ~~the~~ pixel values of the registered input images to generate pixel values for interpolated images from the same viewing position and direction relative to the scene for the image sequence.

10. (Currently Amended) A method according to claim 9, wherein ~~the~~ said registering step of registering the images comprises:

calculating transformations to transform the input images; and  
using the transformations calculated in the transformation calculating step to register the input images.

11. (Currently Amended) A method according to claim 10, wherein, in ~~the~~ said calculating transformation step of calculating transformations, features in the input images are matched and the transformations are calculated on the basis of the matched features.

12. (Currently Amended) A method according to claim 10, wherein, in ~~the~~ said calculating transformation step of calculating transformations, signals input by a user defining matching features in the input images are processed to calculate the transformations.

13. (Currently Amended) A method according to claim 9, wherein, in the said interpolating step of interpolating, the pixel values for the interpolated images are generated using linear interpolation.

14. (Currently Amended) A method according to claim 9, wherein, in the said interpolating step of interpolating, pixel values are generated for interpolated images to be displayed in an image sequence in which each input image is to be displayed a plurality of consecutive times.

02 15. (Currently Amended) A method according to claim 9, further comprising the step of processing registered input images to determine an area of overlap thereof, and wherein, in the said interpolating step of interpolating, the pixel values for the interpolated images are generated for the area of overlap only.

16. (Original) A method according to claim 9, further comprising the step of generating a signal conveying data from which the sequence of images can be generated.

17. (Original) A method according to claim 16, wherein the signal comprises image data.

18. (Original) A method according to claim 16, further comprising the step of recording the signal either directly or indirectly.

19. (Original) A method according to claim 9, further comprising the step of displaying the sequence of images.

20. (Currently Amended) An image processing method for generating data for a time-lapse sequence of images of a scene from the same viewing position and direction relative to the scene, said method comprising the steps of:

calculating transformations to register input images recorded ~~with~~ from at least of one of different viewing positions and/or different viewing directions so that the registered input images represent the scene from the same viewing position and direction relative to the scene; and

generating, using the input images and the calculated transformations, ~~to generate~~ data for images of the scene from the same viewing position and direction to be displayed in the sequence.

21. (Currently Amended) A storage device storing computer-useable instructions for causing a programmable processing apparatus to become operable to perform a method according to ~~at least~~ any one of claims 9 to 20.

22. (Currently Amended) A signal conveying computer-useable instructions for causing a programmable processing apparatus to become operable to perform a method according to ~~at least~~ any one of claims 9 to 20.

23. (Currently Amended) ~~Apparatus~~ An apparatus for processing image data defining a plurality of input images of a changing scene recorded at different times to generate data for defining a sequence of images conveying an evolving representation of the scene from a fixed viewing position and direction between the times at which the first and last input images were recorded, the apparatus comprising:

registration means, for registering the input images so that the registered input images represent the scene from the same viewing position and direction relative to the scene; and

02 interpolating interpolation means for interpolating between the pixel values of the registered input images to generate pixel values for interpolated images from the same viewing position and direction relative to the scene for the image sequence.

24. (Currently Amended) ~~Image~~ An image processing apparatus for generating data for a time-lapse sequence of images of a changing scene from the same viewing position and direction relative to the scene, comprising:

calculating transformation means for calculating transformations to register input images recorded ~~with~~ from at least one of different viewing positions and/or different viewing directions so that the registered input images represent the scene from the same viewing position and direction relative to the scene; and

generating means for, using the input images and the calculated transformations, to generate data for images of the scene from the same viewing position and direction to be displayed in the sequence